THE SEA ROUTE TO INDIA: PERIPLUS MARIS ERYTHRAEI 57

Chapter 57 of the *Periplus Maris Erythraei* is our sole source for a nugget of vital information: how westerners learned to sail over the open sea to India. Unfortunately, emendations distort the Greek in all editions¹ and misconceptions the rendering in all translations.²

The text as it appears in the manuscript³ is as follows:⁴

τοῦτον δὲ ὅλον τὸν εἰρημένον περίπλουν ἀπὸ Κανῆς καὶ τῆς Εὐδαίμονος ᾿Αραβίας οἱ μὲν ⟨πρότεροι⟩ μικροτέροις πλοίοις περικολπίζοντες ἔπλεον, πρῶτος δὲ Ἦπαλος κυβερνήτης, κατανοήσας τὴν θέσιν τῶν ἐμπορίων καὶ τὸ σχῆμα τῆς θαλάσσης, τὸν διὰ πελάγους ἐξεῦρε πλοῦν, ἀφ᾽ οῦ καὶ τοπικῶς ἐκ τοῦ ὠκεανοῦ φυσώντων [τῶν] κατὰ καιρὸν τῶν παρ᾽ ἡμῖν ἐτησίων ἐν τῷ Ἰνδικῷ πελάγει λιβόνοτος φαίνεται, προσονομάζεται δὲ ἀπὸ τῆς προσηγορίας τοῦ πρώτως ἐξευρηκέναι τὸν διάπλουν, ἀφ᾽ οῦ μέχρι καὶ νῦν τινὲς μὲν εὐθὺς ἀπὸ Κανή, τινὲς δὲ ἀπὸ τῶν ᾿Αρωμάτων ἀφιέντες, οἱ μὲν εἰς Λιμυρικὴν πλέοντες ἐπὶ πλεῖον τραχηλίζοντες, οἱ δὲ εἰς Βαρύγαζαν οι τε εἰς Σκυθίαν οὐ πλεῖον ἢ τρεῖς ἡμέρας ἀντέχουσι καὶ τὸ λοιπὸν †παρεπιφέρον πρὸς ιδιον δρόμον ἐκ τῆς χώρας ὑψηλοὶ διὰ τῆς ἔξωθεν γῆς παραπλέουσι τοὺς προειρημένους κόλπους.

The opening lines, up to the relative $\dot{a}\phi'$ ob, are clear enough. In the previous chapters the author had described a route, with its ports, that followed the coast of southern Arabia, Iran, and Pakistan and of western India. 'This whole coastal route just described', he continues,

from Cane and Arabia Felix [the second corresponds to Aden and the first was a major seaport some 200 miles further east], men formerly used to sail over in smaller vessels, following the curves of the bays. The ship captain Hippalus, by plotting the location of the ports of trade and the configuration of the sea, was the first to discover the route over open water.

He then launches into certain details, and it is these that have caused the difficulties.

- ¹ The first reliable text was published, accompanied by a Latin translation, by C. Müller in Geographi Graeci minores, 1 (Paris, 1853), 257–305. Then came B. Fabricius' Der Periplus des Erythräischen Meeres von einem Unbekannten (Leipzig, 1883), a new text accompanied by a German translation; this for long was treated with a respect it did not deserve, for Fabricius' cavalier emending makes it thoroughly unreliable (cf., e.g., CQ 32 [1982], 182). The best text is that of H. Frisk, Le Périple de la Mer Érythrée, Göteborgs Högskolas Årsskrift 33 (Göteborg, 1927).
- ² Müller's text served as the basis of the translation by J. McCrindle in his *The Commerce and Navigation of the Erythraean Sea* (Calcutta, 1879). Subsequently W. Schoff published a translation with extended commentary, *The Periplus of the Erythraean Sea* (New York, 1912); this has been standard for over half a century unfortunately so, since Schoff not only was careless but made wide use of Fabricius' text. A much better translation, based on Frisk's text, has recently appeared: G. Huntingford, *The Periplus of the Erythraean Sea*, Hakluyt Society, Second Series 151 (London, 1980).
- ³ The source of the text is a single manuscript, Heidelberg Univ. Pal. Graec. 398, fol. 40 v-54 v, of the early 10th century; another, of the 14th–15th, in the British Museum (Add. Mss. 19391) is but a copy of the Heidelberg codex. I give the passage as it appears in the manuscript save for three obvious corrections: the insertion of $\pi\rho\delta\tau\epsilon\rho\omega$ before $\mu\iota\kappa\rho\sigma\tau\epsilon\rho\omega$ (there are other equally plausible possibilities, e.g., of $\pi\delta\lambda\alpha\iota$ $\mu\epsilon\nu$); the deletion of $\tau\omega\nu$ before $\kappa\alpha\tau\lambda$ $\kappa\alpha\iota\rho\delta\nu$ (this deletion is one of a few corrections that the scribe of the London manuscript introduced in his copy; cf. Frisk 32); of $\tau\epsilon$ els for the ms. of $\delta\epsilon$ els before $\Sigma\kappa\nu\theta\ell\alpha\nu$. In Frisk's edition $i\nu\psi\eta\lambda\omega$ has been erroneously transposed before $\epsilon\kappa$ $\tau\eta$ s $\chi\omega\rho\alpha$ s.
 - ⁴ What follows has gained much from the invaluable help of my friend and colleague, N. Lewis.

The next few lines, from the first to the second $\dot{a}\phi'$ o \dot{v} , seem hard to fathom. Here, for example, is how they have been rendered by G. Huntingford in a recently published translation that is based on the latest and most reliable text, H. Frisk's:

Since then, when the winds blow locally from the ocean according to season, as with us, when the monsoon in the Indian ocean appears to be south-west, it is called Hippalos from the name of the man who discovered the passage across.

Huntingford wisely elected to follow the Greek of the manuscript rather than Frisk's. For Frisk had retained major alterations introduced by his predecessor, C. Müller: after $\lambda\iota\beta\acute{o}\nu\sigma\tau$ both read $\phi\alpha\acute{\iota}\nu\epsilon\tau\alpha\iota\langle \~\iota\pi\pi\alpha\lambda\circ\varsigma\rangle$ $\pi\rho\sigma\sigma\nu\rho\mu\acute{a}\slash\epsilon\sigma\theta\alpha\iota$ ('libonotus ventus nominatus videtur Hippalus' in Müller's translation) and deleted $\mathring{a}\pi\grave{o}-\delta\iota\acute{a}\pi\lambda\upsilon\nu$ as an intrusive gloss.

What troubled Frisk and Müller was $\phi \alpha i \nu \epsilon \tau \alpha \iota$; heavy-handed emendation was the only way they saw to make sense of it. Huntingford, though he stayed with the manuscript, did less well so far as sense is concerned: the wind in question, as every sailor on the run knew, did not 'appear' to be southwest, it was southwest. Actually the sense poses no problem: $\phi \alpha i \nu \epsilon \sigma \theta \alpha \iota$ means here 'to make an appearance', just as it does in Od. 4. 360–1, where Menelaus tells how he was unable to leave the island of Pharos because $o i \delta \epsilon \pi o \tau' o i \rho o \iota \mid \pi \nu \epsilon i \nu \tau \epsilon s \phi \alpha i \nu o i \delta' \delta \lambda \iota \alpha \epsilon \epsilon s$, 'no winds ever made their appearance blowing over the sea'.

Yet, even if the sense of the word poses no problem, its position, in a clause beginning $d\phi'$ o \bar{v} , does. All translators agree in taking the expression to mean 'ever since which time' – yet the wind had obviously been making its appearance since time immemorial, not just since Hippalus' day. W. Schoff, whose translation of the *Periplus* was standard until the publication of Huntingford's, got round the difficulty by simply omitting $\phi aiv \epsilon \tau ai$, while Huntingford got round it by inserting a 'when' that does not exist in the Greek. To complicate matters further, $d\phi'$ o \bar{v} used temporally consistently denotes time prior to the main verb, not posterior. Yet here a non-temporal meaning – 'because of which', *aut sim.* – would yield even less sense.⁵

As it happens, if we put $\partial \phi'$ of aside, the words that come after are straightforward: they provide, first, a critical piece of information, namely the nature of the winds in the area which rendered Hippalus' feat possible, and then an incidental piece, that, because of the feat, the wind came to bear his name:

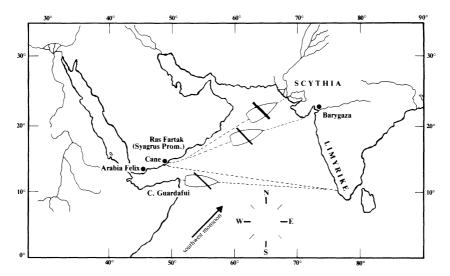
in this locale the winds we call $(\pi \alpha \rho^{\prime}, \dot{\eta} \mu \hat{\nu})$ 'etesian' blow seasonally from the direction of the ocean, and so a southwesterly makes its appearance in the Indian sea, but it is called after the name of him who discovered the way across.

The reference is to the monsoon wind which, from May into October, blows from the southwest, an ideal wind for the outbound crossing. Normally sailors would have called such a wind $\lambda\iota\beta\acute{o}\nu\sigma\tau os$, but, to honour its pioneer exploiter, they dubbed it the Hippalus.

- ⁵ That ἀφ' οὖ used temporally denotes time prior to the main verb is as true of the Greek of the papyri (cf. E. Mayser, *Grammatik der griechischen Papyri aus der Ptolemäerzeit*, II. 3 [Leipzig, 1934], pp. 77–9, 156) and of the New Testament (cf. Luke 13. 7, 13. 25–6, 24. 21; Rev. 16. 18) as it is of literary Greek (*LSJ* s.v. ἀπό II). I have found but one instance in which it denotes later time, U. Wilcken, *Urkunden der Ptolemäerzeit* (Berlin, 1927), 46. 3–7 (162–161 B.C.). I take the second instance, a few lines below, causally, 'because of which'; cf. note 24 below.
 - 6 Reading, with all editors, εξευρηκότος for εξευρηκέναι.
- ⁷ On the nature of the monsoon winds and how they affected sailing to India, see R. Böker, RE Supplbd 9, s.v. 'Monsunschiffahrt nach Indien' (1962); L. Casson, 'Rome's trade with the East: the sea voyage to Africa and India', TAPA 110 (1980), 21–36 (= Ancient Trade and Society [Detroit, 1984], 182–98), esp. 31–5.
- ⁸ Cf. Pliny, HN 6. 100 (where he describes sailing 'ab Syagro Arabiae promuntorio Patalen [at the mouth of the Indus] favonio, quem hippalum ibi vocant') and 104 ('vento hippalo

Thus, whatever the reason for the troublesome $\partial \phi'$ of, the important point is that it is not essential to our understanding of the passage: what comes after it in the manuscript, without any emendation, yields good sense that links up nicely with what preceded and what will follow.

Next comes a second $\partial \phi'$ o ∂ , and this time there are no difficulties: here it introduces a terse listing of the several routes skippers followed to get to India. But before we take up what these are, some general remarks about sailing conditions in the Arabian Sea and Indian Ocean will be helpful.



Vessels, the author informs us, departed from two points in particular, Cane and the (Cape of) Spices (Guardafui), and headed for three destinations in particular, Scythia (the area around the mouth of the Indus, in the vicinity of Karachi), Barygaza (modern Broach on the Gulf of Cambay, some two hundred miles north of Bombay), and Limyrike (the Malabar coast). A glance at the map reveals the course each must have set. Those that left from Cane for the first two destinations clung to the coast as far as the promontory of Ras (Cape) Fartak, the ancient Syagrus; from here on the coastline changes direction and trends sufficiently northward to permit a direct course over open water for the rest of the way. The third destination was the easiest: vessels bound for it could sail a direct course from the outset.

navigant...ad primum emporium Indiae Muzirim' [on the Malabar Coast]). The 'ventus hippalus' was actually more 'africus' or 'austro-africus' than it was 'favonius'; Pliny manages to get the other monsoon wind wrong as well (see Casson, note 7 above, 33). Between November and April the wind blows as steadily from the northeast as it does from the southwest the rest of the year, and this made the homebound voyage just as easy and direct as the outbound. Indian and Arab skippers had been using these supremely convenient winds for centuries but somehow kept them a well-guarded trade secret. Hippalus' claim to fame was in being the first westerner to find out about them.

⁹ Thus P. Fraser, *Ptolemaic Alexandria*, I (Oxford, 1972), 183, in translating the passage simply omits $\dot{\alpha}\phi'$ o \dot{v} ('For, when the Etesian winds are blowing with us, in the Indian Ocean etc.'). Possibly scribal negligence left something out after $\dot{\alpha}\phi'$ o \dot{v} , just as happened after oi $\mu \dot{\epsilon} \nu$ a few lines above; omissions are common in the manuscript (8 = Frisk 3. 25, 10 = 4. 7, 33 = 11. 8, 45 = 15. 17, 54 = 18. 3, 59 = 20. 1). Or possibly $\dot{\alpha}\phi'$ o \dot{v} is a miswriting induced by the occurrence of the same sequence of letters a few lines below $(-\pi\lambda o\nu\nu \ \dot{\alpha}\phi')$ o \dot{v}).

The map reveals yet another fact, one of critical significance: all the voyages were done with a favourable wind. From May into October, the period of the summer monsoon, the wind over the waters involved blows, as I stated a moment ago, from the southwest. Thus, those who left from Cane or any other south Arabian port for the ports to the north had the wind on the starboard quarter up to Ras Fartak and from there almost a stern wind. All heading for the Malabar coast had the wind on the starboard quarter the whole way. Ancient seagoing merchantmen were squarerigged, and for square-riggers, whether of the third millennium B.C. or the twentieth A.D., a wind over the quarter is just as good as one from astern. The summer monsoon is strong, often blowing with gale force, but it has two outstanding virtues: the first has already been mentioned, its direction, which makes it favourable all the way to all Indian ports; the second is its remarkable steadiness.¹⁰ In the days before the invention of the mariner's compass, an important indicator that skippers relied on for maintaining a course was the direction of the wind. On the run to India, once they had got the monsoon coming over the proper point, either from almost astern for the northerly destinations or over the starboard quarter for the southerly, all they had to do was hold it there until they sighted land.¹¹ Scant wonder that they were so grateful to the man who found out about it as to name it after him.

Let us now return to the text. The author begins with the voyage to Limyrike. For most of the way $(\hat{\epsilon}\pi\hat{\iota} \pi\lambda\hat{\epsilon}\hat{\iota}o\nu)$ vessels sailed in a manner he describes as $\tau\rho\alpha\chi\eta\lambda\hat{\iota}\zetao\nu\tau\epsilon_S$. The verb $\tau\rho\alpha\chi\eta\lambda\hat{\iota}\zeta\epsilon\nu$ is a wrestling term meaning 'to get a neck-lock', a crucial move inasmuch as it enabled a man to twist his opponent into sinking to the ground or into position for a toss to the ground. In a nautical context it occurs only here, and it has caused much puzzlement. Müller simply gave up: 'modo scirem quid sibi vellet vox' he commented. Yet a look at the map reveals what it must mean: in going from Cane or the Cape of Spices to Limyrike, a skipper did not sail with the wind astern or nearly so, as he would have in going to Scythia or Barygaza, but with it blowing over the starboard quarter. Just as a wrestler gets a neck-lock on an antagonist and

- ¹⁰ See Sailing Directions for the West Coast of India (U.S. Defense Mapping Agency, Hydrographic Center Pub. 63, 5th ed. 1967, rev. 1976), Section 1–37, p. 55: 'Southwest monsoon winds...may very well be the strongest and most persistent winds over any water area of the globe.' Cf. also Casson (note 7 above), 24, 33–5. Greek and Roman merchantmen, with their massive construction and conservative rig, were better able to handle the southwest monsoon than the Arab and Indian craft of later centuries (Casson, 23).
- A few commentators were aware that the routes to India involved sailing with a favourable wind. Cf. G. Hourani, Arab Seafaring (Princeton, 1951), p. 27 ('ships could sail straight on before the southwest monsoon... and arrive off the Malabar Coast'); J. Thiel, Eudoxus of Cyzicus, Historische Studies uitgegeven vanwege het Instituut voor Geschiedenis der Rijksuniversiteit te Utrecht 23 (Groningen, 1966), p. 44 (where he talks of the Greek skipper's ability 'to hold a given course across the open sea, with a following seasonal wind as the only compass'). Most, however, as we shall soon see, were unaware, and even Hourani and Thiel failed to exploit their knowledge; cf. note 17 below.
- 12 See E. Gardiner's full discussion, abundantly illustrated from vase-paintings, in JHS 25 (1905), 272–8; A. de Ridder in DS s.v. 'Lucta' (1918) 1340 and J. Jüthner in RE s.v. 'Pale' (1949), 86–7 add nothing. That twisting was involved is not only manifest in the ancient representations but made expressly clear by Plutarch, De Curiositate 521 B: an Olympic victor, riding in a procession in his chariot, was unable to keep his eyes off a shapely courtesan among the spectators and kept turning his head around to catch sight of her $(\pi \alpha \rho \epsilon \pi \iota \sigma \tau \rho \epsilon \phi (\mu \epsilon \nu \sigma \nu))$; 'Look at our big athlete,' commented Diogenes, 'being neck-locked $(\tau \rho \alpha \chi \eta \lambda \iota \zeta \delta \mu \epsilon \nu \sigma \nu)$ by a little girl.' For a neck-lock ending in submission, see Plutarch, Apophtheg. Lacon. 243 D; for it ending in a toss, Gardiner, loc. cit., 272 and Athletics of the Ancient World (London, 1930), p. 189. That the neck-lock was a very powerful hold is attested by the metaphors in which it appears, e.g. Philo, De Mutatione Nominum 81 (cf. H. Harris, Greek Athletics and the Jews [Cardiff, 1976], p. 70).

twists him to where he wants him, so, in the Greek sailor's jargon, a skipper 'gets a neck-lock' on the wind and twists it till he has it where he wants it, in this case on the starboard quarter. Müller sensed that the word must have this meaning ('navigantes hippalum ventum non a tergo sed paene a latere dextro habebant' he commented) but, better scholar than sailor, came to a wrong conclusion, that the run was therefore difficult ('his igitur navigatio impeditior erat').

Subsequent commentators and translators have made matters worse. They not only concluded, with Müller, that the run to Limyrike was difficult but compounded the error by assuming that sailing against the wind was involved. In this they were influenced by $\partial \nu \tau \dot{\epsilon} \chi o \nu \sigma \iota$, which appears a few words further on; they took it to mean 'contend against (the wind)'. Thus 'if Limurikê be their destination, [they] must often change their tack' was McCrindle's rendition in 1879, and Fabricius repeated this in 1883 ('lavirt eine grössere Strecke'). 'Change their tack'? They did no tacking whatsoever. Ships tack when confronted with a head wind. 'But, as we have just seen, none were encountered on the voyage to India: the wind was consistently favourable, and this was the precious discovery Hippalus had made.

The most widely used translation of the *Periplus* has been Schoff's – and his handling of this passage is a disaster. He too took it that a head wind was involved and translated 'those bound for Damirica [i.e. Limyrike] throw the ship's head considerably off the wind'. Not at all – those bound for Limyrike are already considerably off the wind; if anything, they turn the ship's head somewhat nearer the wind. Schoff then muddied the waters still further by explaining in his commentary (p. 232) that:

A vessel bound for the Malabar ports and sailing before the wind, with the type of rigging then in use, would have required steering off her course the whole time, thus describing a wide curve before making the Indian coast. Boats were not handled as easily then as now on a beam wind. The quarter-rudder required a constant pull on the tiller by the hands of the steersman.

Every statement here could not be more wrong. There was absolutely no necessity for steering off course, no necessity for making a wide curve, the wind was not a beam wind but on the quarter (as it happens, even a beam wind would not have required steering off course), ¹⁵ and the quarter rudder of the ancients steered a ship every bit as efficiently as the stern rudder of later centuries. ¹⁶ Subsequent commentators and translators, taking it for granted that Schoff knew what he was talking about, have perpetuated his errors for over half a century. ¹⁷ Even the very latest translator,

- ¹³ Cf., too, E. Bunbury, *History of Ancient Geography*, II (London, 1879), 470 ('if they are going to Limyrice [they] have to struggle longer'); E. Lamotte, 'Les premières relations entre l'Inde et l'occident', *La Nouvelle Clio* 5 (1953), 83–118, at 104 ('ceux qui font voile vers la Limyrikē…louvoient la plus part du temps'); Huntingford, p. 53 ('those sailing to Limurikē turning the bows of the ship against the wind').
- ¹⁴ Sailing vessels cannot travel into a head wind but only at an angle to it. They achieve forward progress by zigzagging, by sailing at as close an angle as they can get to the direction from which it is blowing about 70° in the case of ancient square-riggers first a zig of a certain distance to one side of it and then a zag to the other; each of these zigs and zags is called a tack in sailor's jargon, and the process of sailing such a course is tacking.
- ¹⁵ In referring to the wind as a 'beam wind', Schoff may have been following Bunbury, who for some reason called it that (note 13 above, p. 471). Bunbury, however, made it perfectly clear that a beam wind required no steering off course.
 - ¹⁶ Cf. L. Casson, Ships and Seamanship in the Ancient World (Princeton, 1971), p. 224.
- 17 Cf. E. Warmington, The Commerce between the Roman Empire and India (Cambridge, 1928), p. 46: 'throwing the ship's head off the wind with a constant pull on the rudder and a shift of the yard (thus sailing in an arc of a circle)', which is more or less repeated in M. Cary and E. Warmington, The Ancient Explorers (New York, 1929), pp. 76 and 223, n. 51. H. Rawlinson, Intercourse between India and the Western World (Cambridge, 1926²), p. 110, talks of 'throwing

Huntingford, though he does not follow Schoff as closely as others, still thinks in terms of a fight against the wind.¹⁸

The same misconception caused Frisk to go astray, despite the fact that, unlike all the others, he perceived how the sentence must be construed. One must take $\tau\rho\alpha\chi\eta\lambda\iota\zeta_0\nu\tau\epsilon_s$, he correctly points out, 'comme un complément à $\alpha\nu\tau\dot{\epsilon}\chi o\nu\sigma\iota$ '. ¹⁹ But then he translates, 'ils résistent au vent en tournant l'avant contre sa direction', explaining that 'le sens du passage serait donc: "ceux qui partent pour la Limyriké résistent au vent en tournant l'avant contre sa direction pendant la plus grande partie du voyage, ceux au contraire qui vont à Barygaza et en Scythie pas plus que trois jours'''(118–19). ²⁰ This enabled him to justify following Müller in reading, a few words further on, $\pi\alpha\rho\epsilon\pi\iota\dot{\phi}\rho\rho\nu$ for the manifestly corrupt $\dagger\pi\alpha\rho\epsilon\pi\iota\dot{\phi}\dot{\epsilon}\rho\nu\nu$: for the rest of the run, skippers no longer 'résistent au vent' but have a favourable wind. The trouble, of course, is that skippers never did 'résistent au vent'; it was favourable no matter what part of the coast they were bound for.

Here again the map makes clear what the author is telling us. In sailing from Cane ships had to follow the coast as far as Ras Fartak. ²¹ The distance is some 250 nautical miles, that is to say, a three-day sail ²² – precisely the figure appearing in the text. For those three days skippers had to do the same as their colleagues who were heading for Limyrike: they too had to $\tau \rho \alpha \chi \eta \lambda i \zeta \epsilon \iota \nu$, to 'twist' the wind onto the starboard quarter and keep it there; $\dot{a}\nu\tau\dot{\epsilon}\chi\sigma\upsilon\sigma\iota$, a term that may also come from wrestling, here means 'hold out', 'keep on' (cf. LSJ s.v., II 2). However, once past Ras Fartak, they were able to steer directly for their destination with the wind more aft, in the case of Scythia almost astern. In other words, they were carried along just where they wanted to go. Some such meaning must have been conveyed by what the scribes transformed into $\dagger \pi \alpha \rho \epsilon \pi \iota \phi \dot{\epsilon} \rho \sigma \nu$. ²³

the ship's head off the wind'; similarly, M. Charlesworth in CQ 22 (1928), 96 ('those who are making for Limyrike... have to throw the ship's head more off the wind'). Schoff's translation is repeated by Hourani (note 11 above) p. 25 (who failed to see that it directly contradicted what he himself would say two pages further along; cf. note 11 above), by R. M. Wheeler (in W. Grimes, ed., Aspects of Archaeology: Essays Presented to O. G. S. Crawford [London, 1951], p. 368), and by J. Miller (The Spice Trade of the Roman Empire [Oxford, 1969], p. 145). Thiel (note 11 above, p. 45) recognized that 'Schoff's translation...is incorrect' and that 'Fabricius' term laviren is an exaggeration', yet fell into the same error himself: as he saw it, skippers did not tack, 'they only sailed close to the wind'. Sailing 'close to' a southwest wind would have meant, for an ancient square-rigger, sailing southeast by south, a course that would have left it wandering in the reaches of the lower Indian Ocean.

- 18 See Huntingford's words cited in note 13 above.
- 19 Frisk thereby avoided the emending of his predecessors, e.g., Müller's suggestion that τραχηλίζοντες be changed to τραχηλίζονται or Fabricius' altering of ἀντέχουσι to ἀντεχόμενοι.
- ²⁰ Frisk, of course, was simply following any number of predecessors in assuming that the three-day sail was made against the wind: cf. Müller's translation ('non ultra triduum contra nituntur'), McCrindle's ('they are not retarded for more than three days'), and Bunbury's comment (note 13 above, p. 470: 'contend with the wind for about three days, and thenceforward have a favourable wind'). Huntingford, too, takes it this way ('hold out to the contrary for not more than three days').
- ²¹ Almost all commentators and translators have been aware of this: Müller (who commented 'per triduum oram legebant usque ad Syagrum promontorium'), Fabricius (who translated 'hält sich nicht länger als drei Tage am Ufer'), Schoff (who translated 'keep along shore not more than three days'), Lamotte (note 13 above, 104: 'ne longent pas [les côtes d'Arabie] plus de trois jours'), Thiel (note 11 above, p. 46: 'ships must hug the Arabian coast for the first three days').
- With a favourable wind ships averaged four to six knots on the open water, slightly less along a coast; see Casson (note 16 above), p. 288.
- ²³ A verb *παρεπιφέρω is not attested elsewhere but it is a compound that suits the context; cf. ἐπιφέρεσθαι as used by Herodotus in his description of the Nile sea anchors (2. 96). Possible restorations are παρεπιφερόμενοι (suggested by M. D. Reeve) or παρεπιφέρον $\langle \tau \alpha \iota \rangle$ πρὸς ἴδιον δρόμον $\langle \kappa \alpha \iota \rangle$.

Chapter 57, thus, states:

This whole coastal route just described, from Cane and Arabia Felix, men formerly used to sail over in smaller vessels, following the curves of the bays. The ship captain Hippalus, by plotting the location of the ports of trade and the configuration of the sea, was the first to discover the route over open water... In this locale the winds we call 'etesian' blow seasonally from the direction of the ocean, and so a southwesterly makes its appearance in the Indian Sea, but it is called after the name of him who first discovered the way across. Because of this,²⁴ right up to the present, some leave directly from Cane and some from the Cape of Spices, and whoever are bound for Limyrike hold out with the wind on the quarter for most of the way, but whoever are bound for Barygaza and whoever for Scythia only for three days and no more, and, (? carried along) the rest of the run on their own proper course, away from the shore on the high seas,²⁵ over the (? ocean) off the land,²⁶ they bypass the aforementioned bays.

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LIONEL CASSON

- ²⁴ For the translation of $\dot{a}\phi$ ' $o\bar{v}$, cf. Aristotle, Ath. Pol. 18. 2; Demosthenes 10. 20; Xenophon, Anab. 5. 6. 30; Plutarch, Sulla 29. 5, Demosthenes 22. 1.
- ²⁵ So far as I can tell, $\dot{v}\psi\eta\lambda\delta s$ in this figurative sense 'high (sc. on the open water)' is unparalleled. In 33 (= Frisk 11.12) $\ddot{v}\psi s$ is used to mean 'high sea'.
- 26 διὰ τῆς ἔξωθεν γῆς: Müller emended to τοῦ and Frisk added the deletion of γῆς. Perhaps τῆς $\langle \theta \alpha \lambda \acute{\alpha} \sigma \sigma \eta \varsigma \rangle$. As Müller aptly comments, 'certe mira est verborum redundantia in istis'.